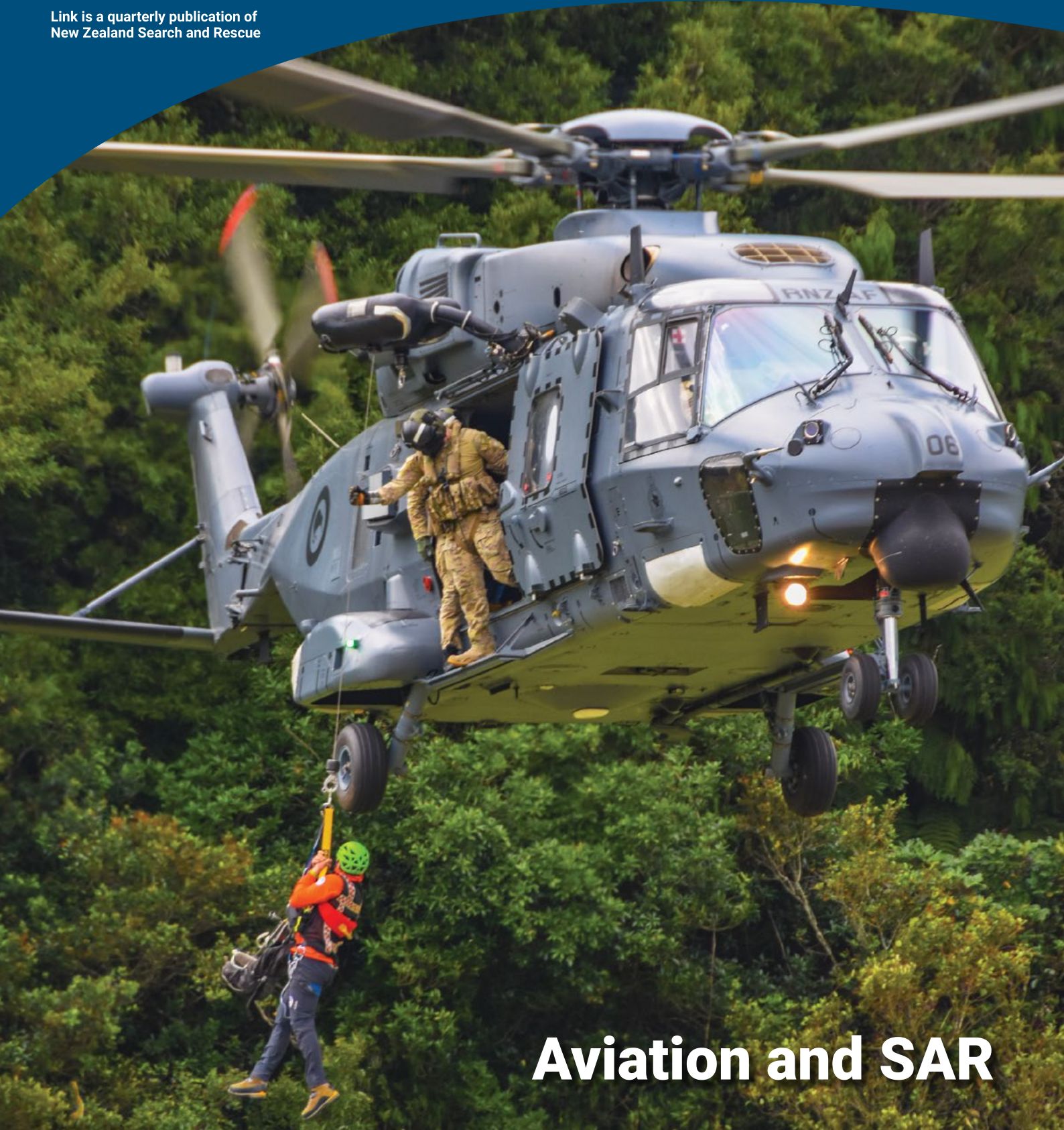




Connecting the search and rescue sector

Link is a quarterly publication of
New Zealand Search and Rescue



Aviation and SAR

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Websites

nzsar.govt.nz

Search and rescue sector resources and information, including a PDF of this newsletter

adventuresmart.nz

Safety information and tips for people planning outdoor activities

beacons.org.nz

Information about 406 beacons, including where to purchase, rent and register a distress beacon

nzsar.govt.nz/nzs-sar-guidelines/nzs-sar-guidelines-overview

New Zealand's Search and Rescue Guidelines

tpp.ac.nz/study-options/search-and-rescue

SAR multi-agency training

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New Zealand Mountain Safety Council

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COVER IMAGE

LandSAR winning training with the New Zealand Defence Force NH90 Helicopter. Courtesy Andy Hoyle



The NZSAR Aviation Workshop

Aviation assets are key enablers of SAR capability, and require robust systems and support to be safe and effective.

Over two days in early July 2022, representatives from the aircraft operators, relevant non-aviation SAR agencies, Civil Aviation Authority and the SAR Coordinating Authorities (Police and the Rescue Coordination Centre NZ), convened in Wellington for the NZSAR Aviation Workshop.

The programme was structured with various presentations and facilitated discussions, providing opportunities for collaborative information sharing and problem solving. Despite the busy schedule, time was set aside to allow delegates the chance to network over dinner afterwards.

The range and depth of topics matched the broad and complex nature of this part of the SAR sector. And throughout the two days, a number of key themes emerged.

Discussions around command and control were robust, reflecting the ongoing challenge of balancing political, financial and operational needs in a fast-paced environment. The SAR Coordinating Authorities presented on their expectations and influence, with reflections from the delegates on recent operations where it worked well or had room to improve. Reporting requirements and transfer of control were other key issues from the Coordinating Authorities' perspective.

Hand in hand with coordination is communications. Briefs were delivered on new technologies emerging, with input regarding existing capabilities and shortfalls. Operationally, the issues of technical compatibility between various agencies was raised, such as between NZ Defence Force (NZDF) and civilian assets. Likewise, the real-world challenges of having enough of the right technology to enable clear and concise communication during complex operations was discussed.

It was clear that health and safety obligations, both moral and legal, were top of mind for the sector. Topics covered included operational pressure versus risk, flight crew rest requirements and operator accreditation.

Delegates agreed that managing the training, competency and currency of professional aircrew, part-time aircrew and volunteer supporting personnel is a significant challenge, which is integral to delivering safe SAR operations.

The workshop provided an opportunity to promote mutual understanding of capabilities within the sector. Presentations on NZDF air assets, the Coastguard Air Patrol and the Aoraki / Mt Cook Alpine Rescue Team balanced informal information sharing on capability and interoperability. The NZSAR Resource Database was highlighted as an enabler of capability awareness, provided it was diligently updated.

Two major case studies were presented: the sinking of the *MV Enchanter* in March 2022, and the crash of Irish Coast Guard helicopter, Rescue 116. The *Enchanter* case study, being significant and recent, was referred to frequently throughout the workshop to illustrate examples of challenges facing the sector. Ireland's Air Accident Investigation Unit report into Rescue 116 highlighted a number of systemic failures, such as maps not being updated, and crew over-familiarity. The presentation prompted discussions regarding the awareness and solutions of potential issues here.

Aviation is a complex and broad part of the New Zealand SAR sector. Through initiatives such as this workshop, we're encouraging information sharing, collaboration and problem solving, to work toward a key NZSAR Council goal of a robust and integrated SAR system.

TOP
SAR people receiving a helicopter safety briefing.
Courtesy Tania Seward



Coastguard Air Patrol

The Coastguard Air Patrol can search up to 35 square miles of water and shoreline per hour, reducing the time needed to cover large search areas and improving SAR outcomes.

First taking to the skies in 1991, in Air Patrol's heyday, there were 10 units operating around New Zealand. Over time, the pressure of resourcing constraints versus rates of operational callouts means that today, only Northland and Auckland remain with dedicated search aircraft.

Alan Murgatroyd was a founding member and a past president of the Northland Coastguard Air Patrol. "When the decision was made to form a Northland Air Patrol, aero clubs from Whangarei, Ruawai, Dargaville, Kaitaia and Kerikeri put their hands up for the honour," he recalls. "Our club president convinced the Royal New Zealand Coastguard Federation [as it was known then] that Kerikeri was the most suitable location, and it's been based here ever since"

The club soon purchased a brand-new Cessna 172, with the registration ZK-CGD (Coastguard), and maintained a roster of qualified volunteer pilots seven days a week. Changes at their home airport meant the club had to shift to a brand-new hangar and sell the aircraft to finance the build. This became the impetus for the creation of the Northland Coastguard Air Patrol as a charitable organisation, to help attract and manage funding for dedicated hangar and operations room space at their new premises. Without their own aircraft, they operated on patrols with a leased aircraft. Later, the new president of the Bay of Islands Aero Club allowed the air patrol to use his own Piper Cherokee aircraft and generously gifted the aircraft to the patrol when he eventually left the aero club.

Today, 24 volunteers contribute to the operation of a dedicated Cessna 182 aircraft, which is funded through unit fundraising, local community grant schemes and support from Coastguard. Last year they gave over 1,605 volunteer hours to support Coastguard operations in their region.

Since 2011, the Auckland Air Patrol has also operated a dedicated Cessna 182 aircraft, registered as ZK-SAR, which replaced another C182. According to Jonny Banister, Coastguard Regional Manager – Northern, "the C182 provides the right balance of affordability and capability for the role. As a dedicated search aircraft, we were able to install fit-for purpose equipment at the factory to make it a capable search platform."

At the core of the onboard SAR equipment is the Garmin G1000, an electronic flight instrument system. The G1000 consists of two display units. One is the primary flight display used by the pilot to control the aircraft's flight path, and the other a multi-function display, which has a number of inbuilt SAR functions like plotting search patterns, which can then be slaved to the pilot's primary flight display. It is one of the most popular integrated glass cockpit solutions for general aviation and business aircraft, so as well as being extremely useful for SAR missions, it allows the volunteers to gain quality experience that they can use elsewhere in aviation if they wish.

TOP

Coastguard Auckland Air Patrol in support of Coastguard vessels over the Hauraki Gulf. Courtesy Coastguard

RIGHT

Banu Pashutanizadeh – Auckland Air Patrol Volunteer Pilot. Courtesy Coastguard



The Cessna 182 also carries automatic direction finding (ADF) equipment, which is relatively standard for SAR aircraft. The ADF can give relative bearing information to a distress beacon, or other radio transmission, such as a “mayday” call to aid in its location. Likewise, marine frequency capable radios are fitted in addition to the standard aviation sets. Finally, a hand-held iPad provides a data-entry and recording point and is used by the in-flight observer, complementing the aircraft’s inbuilt system.

Auckland Air Patrol operates with a crew of three, consisting of a Pilot, In-Flight Coordinator and In-Flight Observer. Whilst the Pilot’s job is to manage the safe flight of the aircraft, the In-Flight Coordinator is responsible for the search mission. They brief the search patterns and tactics and direct the aircraft around the sky. They are also responsible for communicating with Coastguard Communications, based at Mechanics Bay, and any other vessels or SAR assets involved in the operation. The In-Flight Observer sits behind the pilot on the left-hand side, observing and marking objects of interest on the iPad, and keeps a log of the flight and the search mission.

The C182 cruises at comparable speeds (130 knots) to many of the SAR sector helicopters, but is equal or superior in endurance. Search patterns are typically conducted at 80 knots and 500 feet. The Cessna is able to remain airborne up to four and a half hours at a time, and at a fraction of the cost of a helicopter.

But that’s not to say the two types of airborne SAR assets don’t work together. “I can think of three operations that I’ve been involved with, where we were in the air at the same time as the Westpac Rescue Helicopter or the Police Eagle,” says Jonny. “Each platform scoured different parts of the search area, depending on their capabilities. The helicopters flew at low altitude and low speed conducting a shoreline search, while we flew higher and further out to sea. The whole time, the pilots of each aircraft were in communication with each other to avoid collision and to coordinate rapid and very thorough coverage of the search area.”

Being in the Auckland Air Patrol requires the volunteers to complete the Coastguard SAR training program. Volunteers regularly attend rostered shifts at Ardmore airfield during weekends and public holidays, and are on-call at other times. The shifts are broken down into AM and PM each day so that there are four crews each weekend and training or tasking flights take place on each shift. The Auckland Air Patrol can be called to assist within a 75 nautical mile radius of the airfield, and most of their work takes place in and around the Hauraki Gulf, Firth of Thames and Auckland’s west coast.

Since Project Horizon and the amalgamation of Coastguard into one national body, Auckland Air Patrol are occasionally being tasked to operations outside of their usual home range. “Our first major incident was responding to the Whakaari/White Island eruption and both Coastguard Air Patrol units attended,” remembers Jonny. “Our Auckland unit has since been involved in three other searches when we have been out on multiple days over large areas of water and shoreline.”

For the Auckland unit, altogether 38 volunteers responded to 29 callouts last year, devoting 903 volunteer hours to assist 10 people to come home safely, and as Jonny says “contributing to saving lives is the reason our people do what they do.”

nzsar-resources.org.nz

The Coastguard Air Patrol is another SAR capability which provides an excellent service that not everyone is aware of. Other such capabilities can be found in the NZSAR Resources Database. This helps Incident Management Teams across New Zealand find the right SAR resources for whatever job needs doing.

To gain access, contact rccnz@maritimenz.govt.nz

For training, search “NZ SAR Resource Database” on the NZSAR website: nzsar.govt.nz



Welcome John

John Dyer has recently joined the Secretariat as the Lead Planner for the Nationally Significant Search and Rescue Exercise Series.

An incident with low probability but high consequences may become a Nationally Significant SAR Operation. The first such SAR Exercise (SAREX) of its size and scope to be conducted in New Zealand, the Nationally Significant SAREX (NatSig SAREX) is likely to be scheduled for the summer of 2023/24.

John brings a wealth of international and domestic experience to the role. This will be critical to ensure the NatSig SAREX is pitched appropriately to ensure buy-in from the people and organisations who will participate as well as testing and improving the sector's ability to respond to a Nationally Significant Search and Rescue incident.

After a 20-year career in the NZ Army, with a number of overseas deployments including with the United Nations, John spent five years as CEO of the NZ Academy of Sport Central Region based in Wellington. He was invited to take up a role assisting with the development of the safety and security framework for Red Cross teams working in Banda Aceh in the aftermath of the 2004 Boxing Day tsunami. What started as a three-month contract became a permanent role for the International Federation of Red Cross, based in Geneva, Switzerland. "I went to Indonesia for three months, and ended up returning to New Zealand 11 years later," says John.

The role involved working on the Red Cross global programme, with a lot of travel to "the places that no one goes on holiday to," and the opportunity to work with and experience many different cultures.

Throughout these experiences, his core focus on people, teams and organisations perfectly suits his new role in the NZSAR Secretariat. The Nationally Significant SAREX has been in the works for some time, and the project was given approval by the NZSAR Council earlier this year.

For the first few months, his focus will be on digging down from the high-level scope provided by the NZSAR Council. "We need to build a practical concept of what the SAREX might look like, and what the organisations and individuals can realistically achieve," says John. "The key is ensuring there is engagement and buy-in from the sector. We want it to be a worthwhile process for everyone involved, so they see the value and remain engaged throughout. As the first of its kind, we don't want to overcomplicate things: the SAREX is likely to be more about testing the linkages and coordination functions of the various agencies, and less about the tactical level considerations."

Relationships and communication will be vital in that process. Alongside initial scope development, there will be regular updates to the sector: you can expect to read more about the NatSig SAREX here in Link magazine and in other NZSAR channels in due course.

And when John isn't planning the NatSig SAREX, you'll probably find him enjoying a ride on his motorbike, teaching the martial art Aikido or spending time with family, including his two grandsons "who keep me very, very busy when they are around."



Taking the temperature: The 2022 Volunteer Engagement Survey

Building on the *Volunteer Study for New Zealand Search and Rescue 2019* and in response to specific requests from the four volunteer agencies involved in SAR, the NZSAR Secretariat facilitated the 2022 Volunteer Engagement Survey.

The leadership of LandSAR, Coastguard, Surf Life Saving NZ and Amateur Radio Emergency Communications had a strong desire to gather robust information about their volunteer workforce. They wanted to find out what is working, what is not, and take the pulse of volunteer attitudes, satisfaction and engagement.

In total, around 3,300 volunteers completed the survey, which included volunteers from the National Emergency Management Agency's New Zealand Response Teams. The survey had a series of common questions on demographic and engagement, plus unique questions relating to their parent organisation. All of the data was anonymised at the point of collection – no individuals can be identified by their responses.

Overall, 64 percent of the respondents felt that they devote to volunteering were sustainable, and 72 percent said that they were very likely to continue to volunteer. Whānau or family life was the biggest factor competing with respondents' ability to volunteer. There were also some consistent themes regarding the challenges to satisfaction levels, such as vaccination mandates, bureaucracy or administration, and training requirements.

The NZSAR Secretariat is working closely with the volunteer agencies to look at what deeper analysis can be made at the sector level. With around 200,000 pieces of information, there is a significant data set to interrogate.

We'll be looking for areas where individual organisations are performing particularly well, so that we can share what works.

At an organisational level, each of their leadership teams have digested the initial results. Firstly, they have reported that it has been validating to confirm the positive feedback of volunteers with hard data.

Secondly, and most importantly, that it has been very valuable to precisely identify volunteers' concerns, and the issues needing attention to improve overall satisfaction.

The leadership teams are now feeding back to their volunteers and engaging further to find solutions, which will influence their national and regional strategies.

For example, Coastguard has already shared the top best and worst things with their volunteers and board, and are analysing and sharing insights with the managers and staff generally who support units around the country to help them in bringing the best support possible.

LandSAR's national-level analysis found high satisfaction levels and a good understanding of the importance of health, safety and wellbeing. Communication was an area with room for improvement. Likewise, recognition of the efforts of the volunteers and the contribution of whānau and employers. Other areas of frustration were the amount of training required, and the perception of an ever-growing administration burden.

The 2022 Volunteer Engagement Survey has been a significant body of work, which has already provided many useful insights for the sector. Now we are beginning to explore the depth of the data and build on the conversations started. We are looking forward to making a real improvement to the experiences of the 10,000 plus people who volunteer for search and rescue.

An interim report of the findings of the 2022 Volunteer Engagement Survey is available on the NZSAR website. Search "SAR research" or visit nzsar.govt.nz/sar-system-support/sar-research



Whiteout on the Old Woman Range

A beacon activation usually means the search area can be narrowed quickly, with airborne search assets deployed to respond. But the combination of a non-GPS enabled beacon and thick cloud across the whole search area meant LandSAR teams from Central Otago and Wakatipu had to conduct the operation the hard way.

At about 4.30pm on Wednesday 3 February 2021, a single engine Cessna 172 aircraft with just the pilot on board took-off from near Cromwell, Central Otago, on a private flight to a farm near Gore in Southland. The direct route would take the aircraft south, over high and undulating terrain between Central Otago and Southland. The weather enroute was largely clear but a strong southerly wind formed thick orographic cloud across the tops of both the Old Man and Old Woman Ranges. These mountains rise to over 1700m and are characterised by high, rolling tussock tops, dotted with rock tors and dissected by gullies and bluffs.

At about 5.15pm an Emergency Locator Transmitter (ELT) registered to the aircraft was activated in the vicinity of the high-point of the Old Woman Range (1749m). The Rescue Coordination Centre New Zealand tasked a search helicopter and rescue crew from Queenstown.

The ELT was not GPS enabled, which meant the helicopter could only use its direction finding equipment to home in on the 121.5 MHz radio signal to find the location. In the search area, the cloud was roughly 1000m thick, covering the tops and flanks of the range. Together, these factors meant the best the helicopter crew could do was reduce the search zone to an area roughly five kilometres in diameter, before returning to Queenstown.

At 7.00pm that evening, the Central Otago LandSAR group, based in Alexandra, was tasked to locate the aircraft and pilot using ground teams. The six group members from Central Otago were joined by two volunteers from Wakatipu LandSAR and two Police officers, travelling in 4WD utes and dirt bikes.

Conditions in the search area were atrocious, with gale-force southerly winds, rain and extremely low visibility in the thick cloud. The vehicle tracks in the area are in poor condition, with deep ruts, and are usually only recommended for dry-weather travel by experienced four wheel drivers in groups. Even though the search area was only 25 kilometres west of Alexandra, the weather and track conditions meant it took nearly three hours to drive in. With the sun now set, the team checked the tracks in the area using spotlights and thermal imaging equipment. They also employed hand-held direction finding equipment to try to get a signal from the aircraft ELT, but neither produced any results.

Being totally exposed to the elements meant conditions were especially bad for the dirt bikers, so they returned to base at this point.

In thick fog and rain, and complete darkness, the remaining LandSAR and Police team members continued on foot, close-searching the exposed tops and gullies in the search area. By 2.30am, after



The red triangle shows the approximate location of the aircraft. Contains data sourced from the LINZ Data Service licensed for reuse under CC BY 4.0.

more than three hours searching in appalling conditions, some of the team stood down. The remaining members of the search team relocated in one vehicle to the western end of the search area waiting for a clearance in the cloud so that a night-capable helicopter could assist. As they waited, they continued to make short forays from the vehicle to probe the surrounding area. At about 3.30am, during one of these trips, the wreckage of the aircraft was located approximately 300 metres from the search vehicle. Unfortunately, the appearance of the aircraft indicated that the crash was unsurvivable. At this stage, because the incident was no longer classified as a 'search', the Rescue Coordination Centre New Zealand closed it, and handed over to Police for scene examination and body recovery.

At about 7.30am the last of the volunteer searchers were driven out of the area. Two Police officers remained near the wreckage and the deceased pilot until around 10.30am when the cloud lifted enough, allowing a machine from Aspiring Helicopters in Wānaka to reach the site with a recovery team. A scene examination, incorporating cultural considerations, was undertaken before the pilot's body was recovered from the wreckage and flown back to Alexandra. The last of the recovery team and the Incident Management Team finally stood down at about 2.30pm, 21 hours after the search had commenced.

The Central Otago LandSAR group is small, with less than 10 active field members, and generally encounters sub-alpine searches in urban areas, farmland and riverbeds. They cover a wide geographical area and have gone long periods without being called upon, however, they attempt to maintain a high state of readiness at all times for a tasking such as this event. These conditions were extreme for this



group but the knowledge that the missing pilot may have been injured and exposed to the same conditions drove the risk assessment and planning for the extended operation: performing a shift change of the on-scene team was simply not practical due to terrain, distance and weather conditions.

When conditions allow, helicopters are extremely useful in search and rescue operations, but in this instance, an extremely demanding and hazardous ground search was the only option when there was a chance of assisting a missing person.

While the outcome of the search was not the best case scenario, the team was able to remain in contact with the pilot's family throughout the night and, at the request of the next-of-kin, give them immediate notification once the pilot was located.

Thank you to former Detective Sergeant Derek Shaw, who was on-scene commander during this SAR operation, for helping us use and build on his operational report for this article.

Registration of Emergency Locator Transmitters

So the SAR sector can best assist missing aircraft, owners are encouraged to check that their aircraft's ELT is registered, and that registration is updated when the aircraft is sold. Visit www.beacons.org.nz for registration information.

TOP LEFT

The rolling terrain of the Old Woman Range.
Courtesy Daniel Clearwater

ABOVE

Responders at Alexandra during the operation.
Courtesy Otago Daily Times



Surf Life Saving NZ National Search and Rescue Summit

Operational debriefs and lesson management were key themes of the three-day summit in Dunedin, which included a multi-agency marine SAREX.

The May 2022 event was the second National Search and Rescue Summit, organised by Surf Life Saving NZ (SLSNZ). Effective operational debriefings and management of lessons learnt were key themes.

This year, 24 SLSNZ SAR coordinators and senior SAR squad members attended, selected from applicants from across New Zealand. So far, at least half the SAR squads have had representatives at the National Summit, with the goal of 100% coverage by 2023.

Within Surf Life Saving NZ (SLSNZ), there are 40 Search and Rescue Squads. Each responds to call-outs within coastal, river and floodwater environments, in addition to their normal beach lifeguarding duties.

At the Summit, conferences and workshops balanced the Marine SAREX on the middle day. Topics covered included peer support, communications, flood response strategies, search methods and the Emily B Drifter Project. Named after Emily Branje, a nine-year-old girl who was swept out to sea in 2019, the drifters are devices that can be placed in the water to record real-time drift patterns using live GPS tracking, helping local SAR teams to narrow the potential search area. Half the presentations were reviews of past SAR operations, reinforcing the operational debriefs and lessons management focus.

On the middle day, over 60 SAR personnel from seven different agencies participated in a joint Marine SAREX, with up to 12 vessels operating throughout the Otago Harbour and Peninsula.

During Operation Marakopa in September 2021, SLSNZ Search and Rescue Squads from Taranaki, Raglan and Mount Maunganui transported all the necessary equipment over three hours away from their home bases. During the SAREX, the same agencies came together again, reinforcing lessons on interoperability, remote deployments, and communications.

Several Inflatable Rescue Boats (IRB) can be stacked on a trailer for efficient road transport, and they can also be disassembled and

deflated for transport by helicopter sling-load. Air-transportability was first trialed during a Marine SAREX in Milford Sound by the Otago SAR Squad earlier in 2022. At the Summit, eight IRB were deployed to a remote beach, and in 37 minutes, all were operational on the water. The debrief highlighted two extra time-saving strategies, which will be incorporated into the national SOPs. This capability is especially relevant for a mass rescue situation where there are no viable marine assets able to respond in time.

In the last year, SLSNZ SAR Squads responded to more than six flood response and river rescue situations all around the country. As climate change effects continue to grow, this is expected to increase. To better prepare the squads to operate in these environments, SLSNZ has begun developing learning material and courses to equip the squads.

Three activities focused on river and flood response this year at the Summit. Firstly, was an operational review from flood rescues undertaken by Mairangi Bay and Muriwai SAR Squads in West Auckland. Allan Mundy, the SLSNZ SAR Manager, presented on the current challenges of accepting taskings from organisations such as Civil Defence and Emergency Management and Fire Emergency New Zealand. Discussion was also held on issues surrounding cost recovery and insurance cover for equipment and personal items. On the water, training workshops for specific techniques were carried out to spread the practical learnings to squads around the country.

The second Surf Life Saving NZ National Search and Rescue Summit was highly successful, improving standardisation for near-shore rescue operations through improved operational debriefings and lessons management.

TOP LEFT

Preparing the Inflatable Rescue Boats for operations after deployment by helicopter

TOP RIGHT

Coastguard and Surf SAR working together during the Marine SAREX. Both courtesy Phoebe Havill

Operational Debriefs and Lessons Learned

The sharing of operational debriefs during the Summit exemplified how lessons management can work in practice.

Operational debriefs provide an important opportunity to gather observations and insights at a local level. The presentation of debriefs from four contrasting SLSNZ operations to the Summit allowed these to be shared at a national level.

The key lessons that were shared included:

- Recognising when reflex tasking transitions to a SAR response.
- Apply 'Crew Resource Management', not just talk about it.
- Squads operating in remote destinations require additional consideration and support.
- Logistics and planning when packing down and mass transporting IRBs to a remote task.

The full 2022 SAR Summit report can be downloaded from www.surflifesaving.org.nz



Dig them out!

Avalanche training for Search and Rescue teams from Mt Ruapehu, Whanganui and Taranaki was held on Mt Ruapehu over an appropriately freezing winter weekend.

Real-life avalanches, where anyone is caught up in them, are time-critical events with only a narrow window of opportunity to rescue anyone alive – so it is important for personnel to keep their skills up to date.

Senior Sergeant Matt Prendergast, who organised the recent exercise, says training included practical experience for teams in the field and those supporting them in the Incident Management team (IMT).

“Training involved civilian specialist Alpine Rescue Teams from the Ruapehu Alpine Rescue Organisation and Taranaki Alpine Cliff Rescue getting together to practise their skills in the event of a real-life avalanche scenario occurring around Mt Ruapehu or on Mt Taranaki,” says Matt.

“These two teams have worked together in the past on SAR operations on these mountains.”

Scotty Barrier and Jono Gillan, specialist instructors from Aoraki Mt Cook Alpine Rescue Team, instructed the teams around use of transceivers, probes and search dogs to find and rescue people, along with staying safe in that environment.

“While the field teams were practising in the snow, Police SAR members from Whanganui, National Park and Taranaki were training around skills needed in the IMT to support the field teams,” says Matt.

Instructors were Kip Mandeno from LandSAR and Senior Constable Conrad Smith, from the National Park Police Station.

The training and the exercise were a valuable opportunity to learn and refresh skills for the field and IMT teams, and build relationships between the different organisations.



RIGHT
Teamwork is vital for efficient digging in avalanche debris.
Courtesy Andy Hoyle

This story was adapted and republished with permission. It was originally published in the Police's Ten One Magazine, September 2022.
www.police.govt.nz/news/ten-one-magazine

Double search success for air warfare officer and Orion crew

A Royal New Zealand Air Force P-3K2 Orion aircrew searching for a missing Kiribati fishing boat had double success when they also found a second missing fishing crew drifting nearby.

The Rescue Coordination Centre NZ, on behalf of Rescue Coordination Centre Fiji and Kiribati search and rescue authorities, requested assistance to search for a five-metre yellow-hulled wooden boat which had been reported overdue from a trip from Makin Island to Butaritari Island, Kiribati. The boat was carrying two men, a woman and an 11-year-old child.

Meanwhile, the US Coast Guard was preparing to search for another vessel, Woodhaven III, which had been reported missing from Kiribati the previous week with three people on board.

No 5 Squadron air warfare officer Flight Lieutenant Tyler Ngapo said on the morning of the search they were on base by 4am, ready for a 6am take-off.

The aircraft stopped off at Fiji on the seven-hour flight to the search area, so it could refuel, giving the crew as much time as possible to search.

The large 80 x 80 mile (128 x 128 kilometre) search area meant the team used a radar to look for the small boat. After four hours of looking and reaching nearly the end of the search area, the aircrew spotted the Woodhaven III.

“The mood was pretty good in the aircraft. Everyone was pretty excited. You have to remember we were on base at 4am and by the time we found them it was about 5pm, so we’d already been at work for 12 hours by that point,” Flight Lieutenant Ngapo said.

“Normally about the four-hour point people are starting to feel a bit low, so we really wanted to find them – you always hope you’ll find them straight away. So everyone was pretty excited when we found something.”

The aircrew knew the US Coast Guard was searching for the vessel, but their search area was about 150 nautical miles further to the west, so the New Zealand crew weren’t expecting to find them in their area and especially that close, Flight Lieutenant Ngapo said.

The job was not over though as the boat the crew was initially looking for still had not been found.

“We were climbing up to find a boat that could rescue the vessel we had just found and, about 10 minutes later as we were just heading a little to the south, we detected about 10 nautical miles away another vessel and saw it was something small, so we thought we’d go and have a look and that was the other vessel.”

The success of finding the vessel was extra special for the crew, he said.

“It’s pretty hard when you read the request for the search and you see an 11-year-old girl. It doesn’t really change anything we do or how we do it, but it hits home a bit harder and feels a bit different when there is a child involved.”

The crew dropped survival kits with water, chocolate and locator beacons to those on board.



Missing fishing vessel Woodhaven III. Courtesy of NZDF



No. 5 Squadron air warfare officer Flight Lieutenant Tyler Ngapo. Courtesy of NZDF

“We added the chocolate because we figured they probably haven’t eaten for a few days. Then we called the Rescue Coordination Centre in New Zealand and talked with a couple of boats on the radio to get them to go and pick them up. Both were picked up overnight.

“When I woke up the next morning and saw the email they had been picked up successfully and they were all safe it was a good feeling. You can’t beat saving people,” Flight Lieutenant Ngapo said.

This article was first published in Air Force News #248 and is reproduced with permission.



Sector gets health check

The first significant health check of New Zealand’s recreational safety and search rescue systems in nearly 20 years is now underway.

Te Manatū Waka Ministry of Transport (the Ministry) has taken on the task of reviewing New Zealand’s recreational safety and search and rescue systems to assess their health and performance. The aim of the review is to make sure these important systems are fit-for-purpose and are meeting current and future community and national needs and responsibilities.

This review is expected to be completed in mid-2023 and will deliver a set of recommendations supported by an implementation plan to the Associate Minister of Transport and other Ministers as appropriate.

The recreational safety and search and rescue systems have undergone a significant evolution in the past 20 years and are facing challenges. These challenges include the capability needed to deliver frontline safety and search and rescue services, access to critical assets and technology, and ongoing funding sustainability. Haumarū Tangata ki Uta ki Tai Recreational Safety and Search and Rescue Review (the Review) is in response to those changes and challenges.

The Review has a focus on Haumarū Tangata ki Uta ki Tai – supporting people’s wellbeing from the mountains to the sea. In other words, it is aiming to strengthen people’s connection to the outdoors, to water and land, for better health and wellbeing.

The Review is looking at opportunities for improvement at a system-wide level to ensure the recreational safety and search and rescue systems are well supported to deliver safety services for people heading outdoors, and search and rescue services for people across New Zealand and our wider search and rescue region.

Bev Driscoll, Director of the Review, explains: “The Review is focussed on the recreational safety and search and rescue systems as a whole. It will look at things like the governance and leadership of the systems, collaboration, assets, funding, and workforce capability and capacity including the volunteer model that underpins the systems.”

What the Review won’t do, however, is make recommendations proposing wholesale changes to who coordinates search and rescue responses, or who delivers frontline safety services and/or search and rescue responses.

Bev says the Review recognises that the sector comprises a range of government and non-government entities and there are complex mixes of ownership and funding, and governance and accountability arrangements. The Review presents a good opportunity to take stock and think about what might be needed for the future. It’ll also raise the profile of the recreational safety and search and rescue systems.

The Ministry is taking a collaborative approach to the Review and has been connecting with a range of participant organisations, from central government agencies like the New Zealand Police and Maritime New Zealand, to non-governmental organisations (NGOs) like Water Safety NZ, Mountain Safety Council, LandSAR, Coastguard, Surf Life Saving NZ, and Amateur Radio Emergency Communications. The Ministry has also established an advisory group of key government departments and NGOs to provide expert advice and knowledge as the work progresses.

The Ministry will be holding sector-based consultation on its draft recommendations in 2023 before final recommendations are provided to Ministers.

If you would like more information about the Review, you can email the team at RSSAR.review@transport.govt.nz, or head to www.transport.govt.nz and search for “Recreational Safety and Search and Rescue Review”

TOP
Surf Life Saving NZ volunteers during search and rescue training.
Courtesy Jamie Troughton, Describe Media



Home in time for tea? What New Zealanders expect from search and rescue

In the SAR sector, we each have a part to play in educating the public, so fewer people find themselves in trouble and our finite resources are used where they matter most.

Understanding the public's knowledge, perceptions and expectations of search and rescue helps us gauge how our education efforts are going. It also provides extra context to the thought processes of those who are preparing for an outing, and those who find themselves in distress.

Building on initial qualitative research in 2016, the NZSAR Secretariat commissioned a quantitative research project which took place in March 2022. The 900 people who took part formed a representative sample of New Zealand's population.

Over 80 percent of survey respondents were able to identify Police, LandSAR, Coastguard and rescue helicopters as being involved in search and rescue operations. However, many did not have a good understanding of who to call in an emergency. It is important for all SAR agencies to understand how to deal with direct requests for help from the public, and to ensure proper procedure and command is established. *(See Link 59 'SAR Insights' for a relevant case study.)*

More than half of the respondents gained their knowledge about the SAR sector from news media. This demonstrates the value of encouraging reporters to include information about the sector and prevention messaging into news articles. In contrast, only a quarter said they gained their knowledge from social media.

There was an even split of opinion regarding whether the rescued person should pay for the SAR operation or not. After the research was completed, agency representatives at the NZSAR Consultative Committee reaffirmed the NZSAR Council's position of not charging the person being rescued. We don't want people hiding from rescuers to avoid costs – we want them to call for help if they are in distress or their loved ones are missing.



The public are well aware that most of the sector are volunteers, but they have a very high expectation of how effective we are. Most would expect a response to start within an hour of notification, and to be found and brought to safety within six hours. It is important to reinforce that a myriad of factors, such as weather, daylight, team and asset availability can mean that a rescue is delayed, until the next day or even longer. We should be reinforcing that people ought to be prepared enough to survive until we arrive.

By hearing what the public know and expect, we can help to influence their understanding when the opportunities allow. Likewise, we can anticipate minor problems (such as people believing they will be charged money to be rescued) and train our teams how to deal with them.

The full results of the survey are available on the NZSAR website: nzsar.govt.nz/sar-system-support/sar-research or search for 'SAR Research'.



Flight Lieutenant Nicole Brooke training near Dip Flat, Marlborough. Courtesy Nicole Brooke

10 questions with ...

Nicole Brooke

Flight Lieutenant Nicole Brooke has been involved as a LandSAR volunteer since she was a teenager, and now flies search and rescue missions for the New Zealand Defence Force in their NH90 helicopters.

How did you first get involved in search and rescue?

My dad (Police Sergeant Andy Brooke QSM) has been involved with SAR since I was a teenager. I was 13 when I had my first chance to be involved, as one of the 'lost party' in a SAR exercise that dad was organising. As a teenager, I got more involved, going to training, exercises and callouts under the wing of family friends within the SAR group.

What got you interested in aviation as a career?

As a kid, flying had always interested me, but being exposed to rescue helicopters through SAR made me think about flying for a job. It was a flight in the back of a Huey (Air Force Iroquois Helicopter) on a SAREX that made me want to pursue a career as an Air Force pilot.

It was through SAR that you met your husband, is that right?

He was already in the Air Force, and joined the Palmerston North SAR team when he moved to Air Force Base Ohakea to train as a pilot. It took about six months before we got together, but my dad tells me he knew it was going to be a long-term thing pretty early on! Today we both fly the NH90 helicopter for 3 Squadron, Royal New Zealand Air Force.

What is your role during a SAR call out?

I'm an A-category NH90 Captain, which means I'm responsible for the helicopter, crew and any military supporting staff during a call out. We get activated by Headquarters Joint Forces New Zealand, and deploy on search tasks day or night. The NH90 can operate in some pretty severe weather conditions, searching for and winning personnel in or out of the field.

What else does 3 Squadron do in a broader SAR context?

SAR response is just one of the tasks we can be called to do by the government, as part of the 'National Contingency' response. We need to be airborne in two hours, to respond to things like the Kaikoura earthquake and Canterbury floods as well as SAR tasks. We even sent NH90's to help with Australian bush fires in recent times.

What do you like most about your role?

There's a lot of things! I love the wide variety of tasks that we get to do and being part of a tight-knit and highly professional team within the military. Also it's pretty sweet to fly the NH90! We can transit around the country on autopilot the same way as Air New Zealand jets and then operate with night vision goggles in tough conditions in the mountains at night; she's a great helicopter!

What is your most memorable SAR operation flying the NH90?

On a local SAR job, I was able to fly around my LandSAR team mates, and operate alongside the civilian helicopters that I'd been a passenger in during my youth. This was the first overlap of my volunteer and professional involvement with SAR, which was hugely satisfying.

Do you still go on LandSAR searches as a volunteer?

Occasionally; having Dad for inside knowledge helps. Because I'm on standby with the Air Force a lot of the time, I can only say yes when my duties allow, and for the shorter volunteer jobs such as urban searches.

What has been the biggest challenge getting to where you are today?

The initial pilot training ('Wings' course) was extremely tough. Nearly two years of relentless hard work, but it was for something I was deeply passionate about, and the effort has really paid off with the reward of a flying career.

Any advice you'd offer to others who'd like to follow a similar path to yours?

Don't be put off by what you *think* you know about something, whether it's LandSAR or the Air Force. Seek out information, take opportunities to see what it is really like and if you're passionate about it you can achieve way more than you ever thought you could.



Duncan's desk

Kia ora koutou

I can't say I'm sorry to see the end of New Zealand's warmest, wettest winter on record. Storms have isolated communities, washed out roads and tragically, destroyed homes. While Civil Defence emergencies are not technically search and rescue operations, many of the skills we have in our sector are transferrable. It's been great to see many of our SAR people out there assisting fellow Kiwis in their time of need.

This issue of Link focuses on SAR and aviation. While SAR operations for missing aircraft are fortunately small in number – 193 out of 3,269 SAR incidents in the year ending 30 June 2022 – the impact of aircraft on all the other SAR operations is immense. In the past year 44 percent of SAROPs included the use of air assets in some way as part of the operation.

The use of helicopters and fixed-wing aircraft often leads to better SAR outcomes, as people can be (if it all goes well) rescued in a matter of hours. However, we in the SAR sector know that fast responses are not guaranteed due to a range of factors.

To get a better understanding of the public's thinking, we recently commissioned Kantar to survey 1,000 New Zealanders about their expectations of SAR services. Most people surveyed expected to be found and brought to safety within six hours – quite probable on a bluebird day with a helicopter available, but as we know, very unlikely during a storm event, a day's walk from the nearest road-end. With this understanding in mind, we'll continue to work with partner organisations to help the public prepare properly for their next adventure.

As part of our focus on SAR Aviation we hosted a NZSAR Aviation workshop in July. This brought together pilots, air crew, training coordinators and support people from aviation organisations across

the sector. They each got a lot out of meeting key people from the SAR agencies including Coastguard, Surf Life Saving NZ, LandSAR, AREC, Police and the Rescue Coordination Centre. You can read more about the workshop on page 3.

John Dyer has joined the Secretariat for a fixed two-year term to plan a series of Nationally Significant SAR Exercises. A step up from the scenarios we usually support at a local and regional level, these exercises will focus on low probability but high consequence incidents – for instance a passenger vessel sinking (think *TEV Wahine*) or a large plane goes missing (think flight MH370). It's not something we expect everyday but it's important that our sector and our sector partners like Civil Defence and Health are ready to respond in a coordinated manner should the worst happen.

You might have seen some of our Secretariat team out and about lately. Andy and Matt attended the Tasman and Central Avalanche SAR exercises respectively, and I've been at the Safer Boating Forum in Auckland, the AREC Summit and the Coastguard AGM. We're also about to run a series of Rauora exercises in the Canterbury, Wellington, Waikato, and Eastern Police Districts, which are always a good opportunity to get out and meet SAR people.

It's coming into our busy summer season for SAR, so I hope you've had the opportunity to take some time out before things really start ramping up.

Stay safe,
Duncan Ferner
NZSAR Secretariat Director

Tasman Avalanche SAREX July 2022
Courtesy Jen Murray Police

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